AMENDMENTS TO THE SPECIFICATION

1. Please amend the specification of the captioned application as set forth below.

2. Please replace paragraph [0018] of the specification of record with the following re-written paragraph:

With reference to Figure 1 there is shown a block electrical circuit diagram of a multiple battery power supply particularly adapted for use in an implantable medical device, shown in FIG. 1 as an implantable hearing prosthesis 100 such as a cochlear implant, a middle ear implant or a hydromechanical inner ear stimulator. The power supply primarily consists of first conversion means in the form of an input voltage converter circuit 5, second conversion means in the form of an output voltage converter circuit 7, including a capacitor 7d, and an array of rechargeable batteries 6. An induction coil 1 detects and picks up varying magnetic fields from primary induction coils brought into proximity with the coil 1 and delivers an induction voltage at its terminals. Power transfer at a specific frequency can be made more efficient by optionally including the induction coil in a resonant circuit whereby a capacitor is connected in parallel or series to the coil 1. A rectifier 2 rectifies the AC voltage generated by the coil 1 or in other words converts the induction voltage into a DC voltage. The rectifier is shown as a full wave rectifier, however other embodiments such as half wave rectifiers or voltage doubling rectifiers can be used. A charging capacitor 3 removes the ripple of the rectified voltage delivered by the rectifier 2 and a voltage limiting device 4 absorbs excess voltage generated by the coil 1. After passing through the capacitor 3 and voltage limiting device 4, the DC voltage is passed to the input voltage converter circuit 5 which is preferably a step-down (or buck) type. It converts the voltage into an appropriate voltage to charge rechargeable batteries B_1, B_2 up to B_n. The input voltage converter circuit 5 is primarily made up of a charge switch 5a, an inductor 5b, a discharge switch 5c and a switch control unit 5d. The switch control unit 5d provides control signals to switches 5a and 5c as a function of the desired charge current and saturation current of the inductor 5b. The array 6 of rechargeable batteries comprises one rechargeable battery B_1 and at least one further rechargeable battery B_2 of the same cell chemistry and size. The number of

individual batteries is arbitrary. Associated switches S_{11}.... S_{n2} are included in a switch matrix that activates current paths from specific batteries to the input voltage converter circuit 5 and the output voltage converter circuit 7 respectively. The output voltage converter circuit 7 converts the voltage of the rechargeable batteries B_1... B_n into a voltage appropriate to supply an output circuit (not shown) such as the circuitry of an implant, like as a middle ear implant or cochlear implant. If a specific battery is connected to the input voltage converter 5, any other switch connecting a battery to the input voltage converter circuit 5 is inhibited in order to avoid parallel connections of batteries. This applies also to the output voltage converter circuit 7 respectively. Connected to each one of the batteries B_1... B_n between the positive terminal of each battery and its associated switch is a multiplexer 8. The output of the multiplexer 8 is linked to an analogue to digital converter circuit 9 which in turn is linked to a control unit 10. The multiplexer circuit 8 enables each individual positive terminal of the batteries B_1... B_n to be switched to the input of the analogue to digital converter 9 or alternatively the positive terminal of a shunt resistor 12 connected between the negative terminal of each battery and ground may be directly connected through the multiplexer 8 to the converter 9. The analogue to digital converter 9 measures the analogue battery voltage of each individual battery and converts it into a digital value which is then supplied to the control unit 10. Alternatively the analogue voltage drop across the shunt resistor 12 is converted into a digital value as well. The control unit 10 processes signals and data received from the converter 9 and a battery status register 11. The register 11 stores the charge and error status of each individual battery in the array of rechargeable batteries. The control unit 10 thus periodically checks for the presence of a DC voltage at the input of each of the batteries (or corresponding switch) and enables the charging of the batteries by activating the various switches in the switch bank. Preferably, charging is enabled at state of charge (SOC) at or below the preset working regime of a used cell chemistry. For example, this pre-set working regime can be between 15% and 95% SOC for nickel metal hydride (NiMH) or between 0% and 80% SOC for graphite/lithium cobaltate cells. The cell chemistry of the batteries determines the charging characteristics applied by the control unit 10. By periodically scanning the voltage and current condition of each individual battery it keeps a record of their SOC, where a fully charged cell has 100% SOC, in the battery status register 11. The control unit 10 can be ~~parameterised~~

parameterized in order to support different cell chemistries, for example NiMH or nickel cadmium (NiCd) at 1.2V, Li-Ion (graphite/lithium cobaltate 4.2V, lithium titanate- lithium manganese spinel 2.3V) and various cell sizes. It should be appreciated that the cell chemistries and working regimes mentioned above are illustrative examples only and it is envisaged that any suitable implantable battery is included within the scope of the present application, such as solid state systems based on the lithium ion battery or "rocking chair" principle or any other suitable implantable battery based on currently unknown chemical composition. On similar grounds, working regimes which may turn out to be more ~~favourable~~ favorable under certain circumstances are included within the scope of the present application.